CERTIFICATE

By Authority Of
THE UNITED STATES OF AMERICA
Legally Binding Document

By the Authority Vested By Part 5 of the United States Code § 552(a) and Part 1 of the Code of Regulations § 51 the attached document has been duly INCORPORATED BY REFERENCE and shall be considered legally binding upon all citizens and residents of the United States of America. ***HEED THIS NOTICE***: Criminal penalties may apply for noncompliance.

* * *

Document Name: TTMA RP-107: Procedure for Testing In-Service Unmarked and/or Uncertified MC 306 and Non-ASME MC 312 Type Cargo Tank Manhole

CFR Section(s): 49 CFR 180.405(g)(2)(i)

Standards Body: Truck Trailer Manufacturers Association

Official Incorporator:
THE EXECUTIVE DIRECTOR
OFFICE OF THE FEDERAL REGISTER
WASHINGTON, D.C.

TTMA TECHNICAL BULLETIN

Truck Trailer Manufacturers Association
1020 Princess Street
Alexandria, Virginia 22314
(703) 549-3010 FAX: 1-703-549-3014

Bulletin No. 107 **June 1, 1998**

Subject: **Procedure for Testing In-Service, Unmarked, and/or Uncertified MC 306 and Non-ASME MC 312 Type Cargo Tank Manhole Covers**
(Originally Issued June 1990, Revised June 1998)

1.0 Preface:

1.1 Recommended Practices and Technical Bulletins are furnished by the TTMA as a guide to general practices in the manufacture, use, and repair of truck trailers. However, the scope of the TTMA's Recommended Practices and Technical Bulletins is not exhaustive of all general practices in the manufacture, use, and repair of truck trailers and there may exist such general practices which do not appear in either the Recommended Practices or Technical Bulletins.

1.2 Recommended Practices and Technical Bulletins represent the state-of-the-art that existed at the time of its preparation. Users of Recommended Practices and Technical Bulletins should familiarize themselves with advancements in practices that have occurred subsequent to the Recommended Practice's or Technical Bulletin's publication date.

1.3 The TTMA has not undertaken any evaluation of all the conceivable ways in which Recommended Practices or Technical Bulletins may be used by manufacturers, users, or repairers of truck trailers nor the consequences of such uses. Everyone who uses Recommended Practices or Technical Bulletins must first satisfy himself or herself that his or her safety, the safety of others, or the safety of the truck trailer and any other equipment will not be jeopardized by their use of information contained within the Recommended Practices or Technical Bulletins.

1.4 The Recommended Practices and Technical Bulletins may contain terms or words with specialized meanings. Definitions for such terms or words may be found in TTMA RP No. 36 - Tank Trailer and Tank Container Nomenclature or TTMA RP No. 66 - Trailer Nomenclature.

1.5 Within the Recommended Practices and Technical Bulletins, "shall" is used wherever conformance with the TTMA publication requires that there be no deviation from the specific recommendation. "Should" is used wherever deviation from the specific recommendation is permissible in complying with the TTMA publication.

1.6 Conformity with TTMA publications by manufacturers, users and repairers of truck trailers is voluntary and any non-conformity with such publications is not indicative of the non-conforming practice being deficient.

1.7 Any inclusion of Recommended Practices or Technical Bulletins within any contract, document or standard is voluntary, and any such inclusion shall not imply any endorsement or approval by the TTMA due to the multitude of ways in which the Recommended Practices or Technical Bulletins may conceivably be used.

2.0 Purpose:

2.1 The purpose of this test procedure is to qualify by means of a pressure test the structural integrity of in-service manhole and fill opening covers which are not marked as conforming to TTMA RP No. 61 nor so certified by the manufacturer.

2.2 Users may determine if existing marked or unmarked covers meet RP No. 61 by contacting the manufacturer and obtaining written certification.

3.0 Scope:

3.1 This test procedure is applicable to manhole covers designed for MC 306, MC 300, MC 301, MC 302, MC 303, MC 305, and MC 312 cargo tanks.

3.2 Manhole covers not within the scope of this test can be tested per the same general procedure, but with appropriate hardware.

4.0 Qualifying Test:

4.1 In-service manhole and/or fill opening covers not marked as conforming with TTMA RP No. 61, nor so certified by the manufacturer, shall be tested using the equipment described in 5.0 and the procedure described in 6.0 of this Technical Bulletin.

4.2 Manhole and/or fill opening covers successfully meeting this test per 7.0 and prior to reinstallation on the cargo tank may be permanently marked by stamping or other means as conforming to TTMA Technical Bulletin No. 107-xx, where the last two digits indicate the year in which the latest version of the Technical Bulletin was issued. A letter following the year indicates a revision in the same year. The name of the tester and date of the test should be recorded and retained.

4.3 Any device, such as a pressure relief valve, which becomes a part of the manhole cover assembly shall be evaluated separately for compliance with the DOT requirements.

5.0 Test Equipment: (See Figure 1)

5.1 The test fixture for the 15 psig test per 4.1 consists of 16 inch diameter, 20 inch diameter, or 12 inch x 16 inch elliptical collars with a suitable material welded to the bottom. The test fixture collar shall be the same size, thickness, and material as that collar on the tank to which the manhole cover assembly is to be installed if it complies with DOT requirements.

5.2 Gauges: One (1) 0-30 psi for leakage test.

5.3 Pipe Fittings:
One (1) ½ inch NPT globe valve
One (1) ½ ball valve
One (1) ½ inch cross
Five (5) ½ inch pipe nipples

5.4 Rubber membranes of 1/8 inch thickness to fit outside diameter of manhole collar.

5.5 Steel plate with guides to block fill opening only if fill opening cover acts as a pressure relief valve. Please note that some old manhole covers have fill covers which do not provide pressure relief and those fill covers should not be blocked closed.

5.6 Vent plugs, flanges, or other devices to block holes in manhole cover.

5.7 Manhole gaskets - One (1) for each size manhole assembly to be tested.

5.8 Gaskets for the 10 inch diameter pressure relief valves.

6.0 Manhole Cover Test Procedures:

CAUTION: USE WATER FOR TEST - DO NOT USE AIR

6.1 Remove manhole cover assembly and clamping ring assembly to be tested from the cargo tank.

6.2 Remove any normal pressure/vacuum vents, sensors, high capacity vents or any other appurtenance that protrudes below the manhole cover.

6.3 Block the openings in the manhole cover with the devices listed in 5.6.

6.4 Fill test fixture base with water to top of collar.

6.5 Lay rubber membrane on test base.

6.6 Open 10 inch diameter pressure relief valve. Install steel plate with guides to underside of 10 inch diameter opening. Use vise grips to hold this plate in position while placing manhole cover assembly on rubber membrane.

6.7 Install a 0-30 psig gauge in test base.

6.8 Attach manhole cover assembly with its clamping ring assembly to the test fixture. While tightening clamping ring bolt, tap the ring at various points to insure equal clamping.

6.9 Slowly pressurize test fixture to 15 psig for a period of at least 5 minutes.

CAUTION: WATCH PRESSURE. DO NOT OVER-PRESSURIZE
Most water systems provide a pressure over 50 psig.

7.0 Inspection:

7.1 Any leakage will be considered a failure of this cover and others of its type and condition.

7.2 If the cover does not pass this test in its original condition, but the manhole cover assembly manufacturer has components available which will enable the cover to pass the test, covers using such components are considered satisfactory.

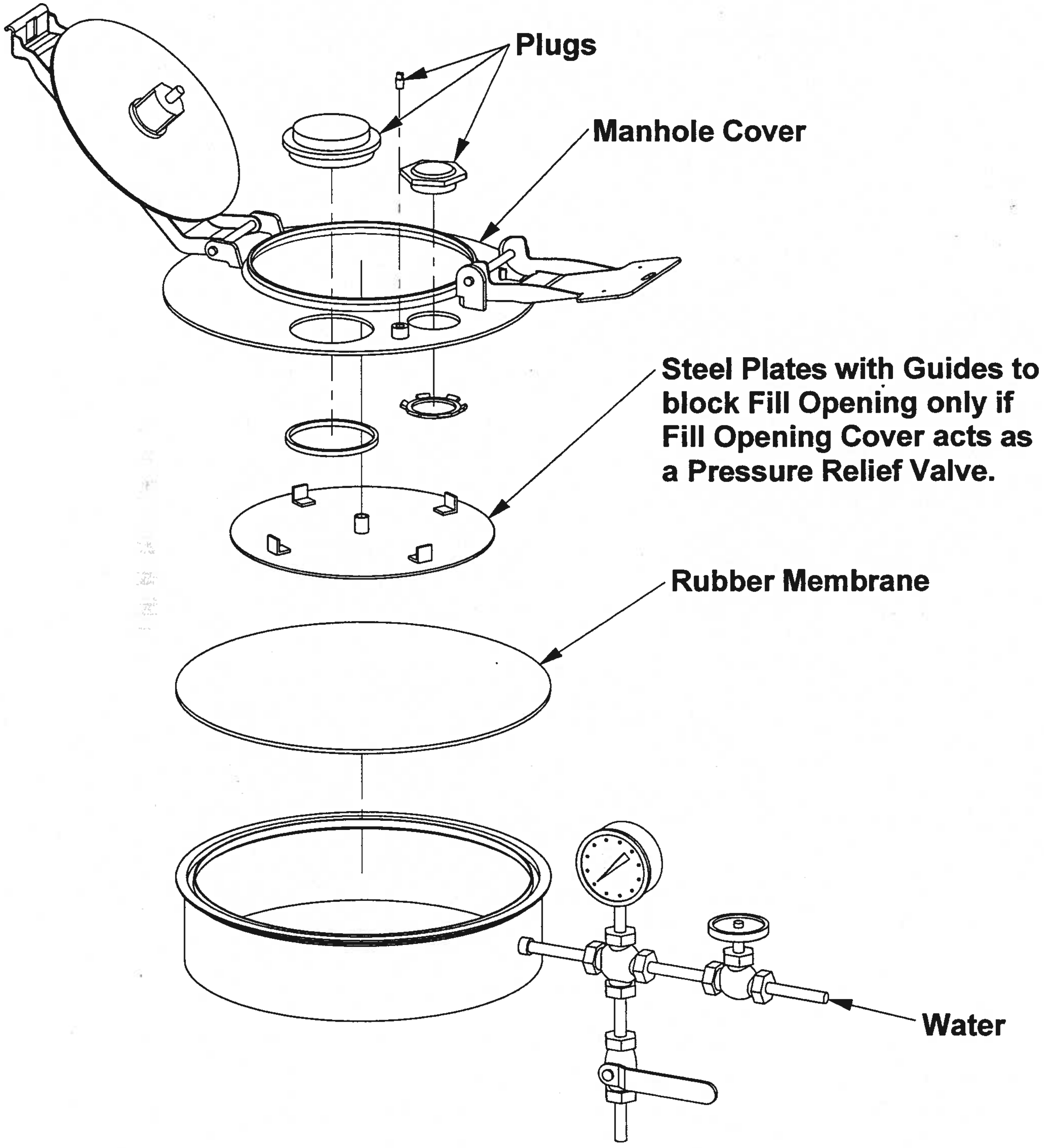
7.3 Before reinstalling the manhole cover to the cargo tank, the collar and gasket shall be inspected. If damage, distortion, corroded areas or other conditions exist that could impair its product retention capability, the collar and/or gasket shall be replaced. See TTMA Technical Bulletin No. 92 - "Maintenance of MC 306 Manhole and/or Fill Assemblies" for guidelines for the inspection and maintenance of MC 306 cargo tank manhole and/or fill assemblies.

TTMA/DWV/mm

Enclosure

FIGURE 1

MC 306 cargo tank manhole assembly test setup is shown as an example



Plugs
Manhole Cover
Steel Plates with Guides to block Fill Opening only if Fill Opening Cover acts as a Pressure Relief Valve.
Rubber Membrane
Water

Membrane Seal, Pressure Relief Valve Blocking Plate and Plugs for 15 PSIG Test.